

550197

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

PCT

(10) International Publication Number
WO 2004/084755 A1

(51) International Patent Classification⁷: **A61C 8/00**

(21) International Application Number:
PCT/KR2004/000519

(22) International Filing Date: 12 March 2004 (12.03.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2003-0018745 26 March 2003 (26.03.2003) KR

(71) Applicant and
(72) Inventor: SUL, Young-Taek [KR/SE]; Department of
Biomaterials Sciences, Goteborg University, Box 412,
S-405 30 Goteborg (SE).

(74) Agent: PARK, Hyeong-Keun; Room No. 502, Jeongjin
Bldg., 936-9, Bangbae 1(il)-dong, Seocho-gu, SEOUL
137-844 (KR).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

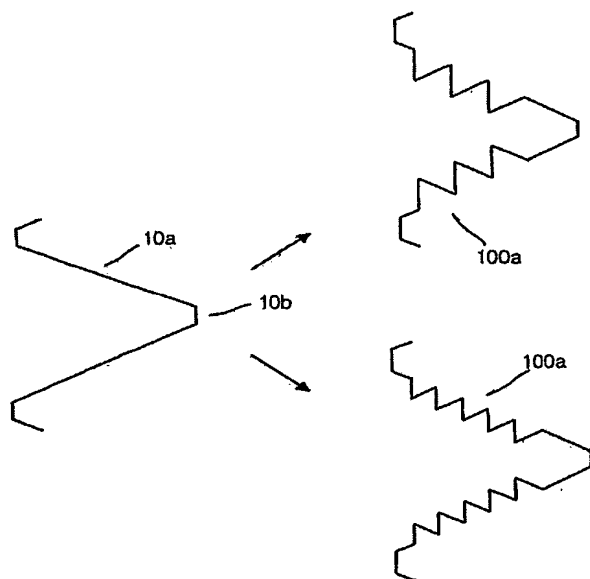
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: HELICAL IMPLANT



(57) Abstract: Disclosed herein is a helical implant. The
helical implant is formed with threads thereon and each of
threads has threads inclines comprising micro-patterns,
such as recesses and protrusion, on the thread inclines. The
micro-patterns on the helical implant may have triangular
patterns 100a, stepped patterns 100b and arcuate 100c
or combination patterns 100d composed of plurality of
patterns. The micro-patterns preferably have a cross
sectional area of 150 μm . The helical implant has an
increased contact area at the fixed portion, so that the
volume of the bone induced between the threads 10b is
increased from the several dozens of μm level to fifty times
that at maximum, thereby dispersing load at the implanted
portion and preventing physical damage near the implanted
portion.

WO 2004/084755 A1